Russian Journal of Physical Chemistry A 2007 vol.81 N8, pages 1341-1345

Hydration-dehydration of human serum albumin studied by isothermal calorimetry and IR spectroscopy

Sirotkin V., Korolev D., Silakova A.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Based on a comparison of the data on the isothermal calorimetry of the interaction of human serum albumin with water and the adsorption isotherms of water vapor on the protein obtained by IR spectroscopy, an experimental method was used for the first time to study the thermochemical and sorption characteristics of protein hydration-dehydration over the entire range of the thermodynamic activities of water. A mechanism was proposed to explain the relationships between the thermochemical properties, protein water content, and the moistening method. © 2007 Pleiades Publishing, Ltd.

http://dx.doi.org/10.1134/S0036024407080298